



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx CML 18.0016X

Issue No: 0

Certificate history:

Issue No. 0 (2018-02-08)

Status: **Current**

Page 1 of 3

Date of Issue: **2018-02-08**

Applicant: **Shimada Electric Co. Ltd**
2-29-6 Nakaikagami
Ohta-ku
Tokyo
Japan

Equipment: **S1242 Explosion-proof Control Box**

Optional accessory:

Type of Protection: **Flameproof; Increased Safety; Intrinsic Safety; Encapsulation**

Marking:

Ex db eb ib mb IIC T5 Gb
Ex ib tb IIIC T95°C Db

-40°C ≤ Ta ≤ +40°C

Approved for issue on behalf of the IECEx
Certification Body:

A C Smith

Position:

Technical Operations Director

Signature:
(for printed version)

Date:

2018-02-08

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Certification Management Limited
Unit 1, Newport Business Park
New Port Road
Elsesmere Port, CH65 4LZ
United Kingdom





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Manufacturer: **Shimada Electric Co. Ltd**
2-29-6 Nakaikegami
Ohta-ku
Tokyo
Japan

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2014 Edition:4.0	Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/CML/ExTR18.0016/00

Quality Assessment Report:

CN/CQM/QAR12.0002/03



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The S1242 Explosion-proof Control Box comprises an increased safety and dust ignition protective enclosure and an arrangement of separately certified and appropriately rated and dimensioned components and accessories.

See Annex for detailed description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The following conditions relate to safe installation and/or use of the equipment.

- i. Equipment incorporating the S1342 enclosure with a coating of epoxy powder must not be used in areas affected by charge producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust to avoid electrostatic discharge.
- ii. The equipment shall be used with cable that has a suitable temperature rating.

Annex:

[IECEX CML 18-0016X Issue 0.pdf](#)

Annexe to: IECEx CML 18.0016X Issue 0
Applicant: Shimada Electric Co. Ltd
Apparatus: S1242 Explosion-proof Control Box



Description

The S1242 Explosion-proof Control Box comprises an increased safety and dust ignition protective enclosure and an arrangement of separately certified and appropriately rated and dimensioned components and accessories.

The S1242 enclosure is manufactured from glass fibre reinforced polyester. Multiple S1242/S1342 Explosion-proof Control Boxes may be combined with the use of connection plates.

Conditions of manufacture

- i. The minimum ambient temperature of the product depends on the minimum ambient temperature of all the installed component modules. The maximum ambient temperature of the product depends on the allowed service temperature of all the installed component modules.
- ii. The enclosures incorporate the use of separately certified and suitably dimensioned entry devices with Ex certificates. The IP protection level and the EPL should be not less than the original level of the enclosure.
- iii. Rated values are maximum value, the actual electrical values are determined by mounted electrical apparatus. The manufacturer specifies the final limiting values dependent on power supply specifications, operation pattern, using type etc., and within these limiting values complying with the appropriate standards. It's the manufacturer's responsibility to specify the characteristic values of the Ex i circuits.
- iv. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific colour (light-blue) or a warning label.
- v. The maximum power dissipation or contact resistance shall be in accordance with the certificates of the Ex components. Each component's power dissipation shall be determined by the actual input current (I) when in operation and the contact resistance (R) when operated at 20°C.
- vi. The creepage and clearance distances between IS and non-IS circuits shall be maintained according to the requirements of EN/IEC 60079-14 when the equipment is installed with IS components.

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- vii. The equipment shall be subjected to electric strength tests as follows:
- Primary – secondary at a test voltage of $(1000 + 2U)$ Vac or 1500 Vac (whichever is the greater) where U is the highest of primary and secondary voltages
 - All windings – earth at a test voltage of 500 Vac for winding voltages up to 90 Vac and for voltages over 90 Vac, at a test voltage of $(1000 + 2U)$ Vac or 1500 Vac (whichever is the greater) where U is the highest of primary and secondary voltages.

The test voltage to be applied for 60 s. Alternatively, a voltage of 20% higher may be applied for 1 s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.

- viii. A routine temperature rise test must be carried out in accordance with EN/IEC 60079-0 clause 26.5 on each unit to ensure the service temperature of each component is not exceeded.
- ix. The manufacturer shall mark the equipment with the types of protection of the components used.

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Applicant: **Shimada Electric Co. Ltd**
2-29-6 Nakaikegami
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Equipment: **S1342 Explosion-proof Control Box**
Optional accessory:

Type of Protection: **Flameproof; Increased Safety; Intrinsic Safety; Encapsulation**

Marking:
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Annexe to: IECEx CML 18.0017X Issue 0
Applicant: Shimada Electric Co. Ltd
Apparatus: S1342 Explosion-proof Control Box



Description

The S1342 Explosion-proof Control Box comprises an increased safety and dust ignition protective enclosure and an arrangement of separately certified and appropriately rated and dimensioned components and accessories.

The S1342 enclosure is manufactured from carbon steel or stainless steel. The outer surfaces of the carbon steel enclosures are painted by a plastic spray process. Multiple S1342/S1242 Explosion-proof Control Boxes may be combined with the use of connection plates.

Conditions of manufacture

- i. The minimum ambient temperature of the product depends on the minimum ambient temperature of all the installed component modules. The maximum ambient temperature of the product depends on the allowed service temperature of all the installed component modules.
- ii. The enclosures incorporate the use of separately certified and suitably dimensioned entry devices with Ex certificates. The IP protection level and the EPL should be not less than the original level of the enclosure.
- iii. Rated values are maximum value, the actual electrical values are determined by mounted electrical apparatus. The manufacturer specifies the final limiting values dependent on power supply specifications, operation pattern, using type etc., and within these limiting values complying with the appropriate standards. It's the manufacturer's responsibility to specify the characteristic values of the Ex i circuits.
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